

GEOGRAPHIC NEWS BULLETINS

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THE NATIONAL GEOGRAPHIC SOCIETY

(The National Geographic Society is a scientific and educational Society, wholly altruistic, incorporated under the Federal law as a non-commercial institution for the increase of geographic knowledge and its popular diffusion.)

General Headquarters, Washington, D. C.

Contents for Week of October 12, 1931. Vol. X. No. 14

1. Manchuria: Transformed by Railways.
 2. Lindberghs Touched Our Farthest North and Japan's "Cradle of Blizzards."
 3. Glass Paper, New Show Case for Many Commodities.
 4. Iceland Has Little Ice, but Much Natural Steam Heat.
 5. Patron of Plant Hunters Honored by Medal Award.
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© Photograph from Royal Canadian Air Force

TO THE ESKIMO A DOG IS MORE THAN A PET:

These woolly Eskimo pups will one day help to draw the sleds that are the only means of transport in many parts of northern Canada. Flights, such as that of the Lindberghs, however, are drawing attention to the possibilities of airplane travel in the wilderness (See Bulletin No. 2).

HOW TEACHERS MAY OBTAIN THE BULLETINS

The Geographic News Bulletins are published weekly throughout the school year (thirty issues) and will be mailed to teachers for one year upon receipt of 25 cents (in stamps or money order). Entered as second-class matter, January 27, 1922, at the Post Office at Washington, D. C., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized February 9, 1922.

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Manchuria: Transformed by Railways

RAILWAYS, immigration, raw materials—these are the chief factors that stand out in the story of modern Manchuria and put that country's name again and again into the world's headlines.

Railways have swelled a trickle of immigrating Chinese into a mighty human flood, and at the same time have developed an empty region into a rich producing area for minerals and farm products. It is not strange, therefore, that when things happen in Manchuria to draw the eyes of the world, railways are usually found to be deeply involved.

Road Plays Part in Clash

Two years ago Northern Manchuria threatened to unsettle the whole diplomatic situation of the Far East because of a dispute between China and Russia over the Chinese Eastern Railway, which runs east and west through that region. In the recent clash between Japanese and Chinese troops it is the South Manchuria Railway that has played the major rôle.

The Japanese explain their fire on Chinese troops as the defense of a railway bridge which was about to be blown up. But whatever specific incident may have been responsible for the clash, the railway can not escape being in the forefront. It is as guards of the railway zone that Japanese troops were present in the Mukden area, and it is over the railway that Japanese supplies, munitions, and reinforcements must move.

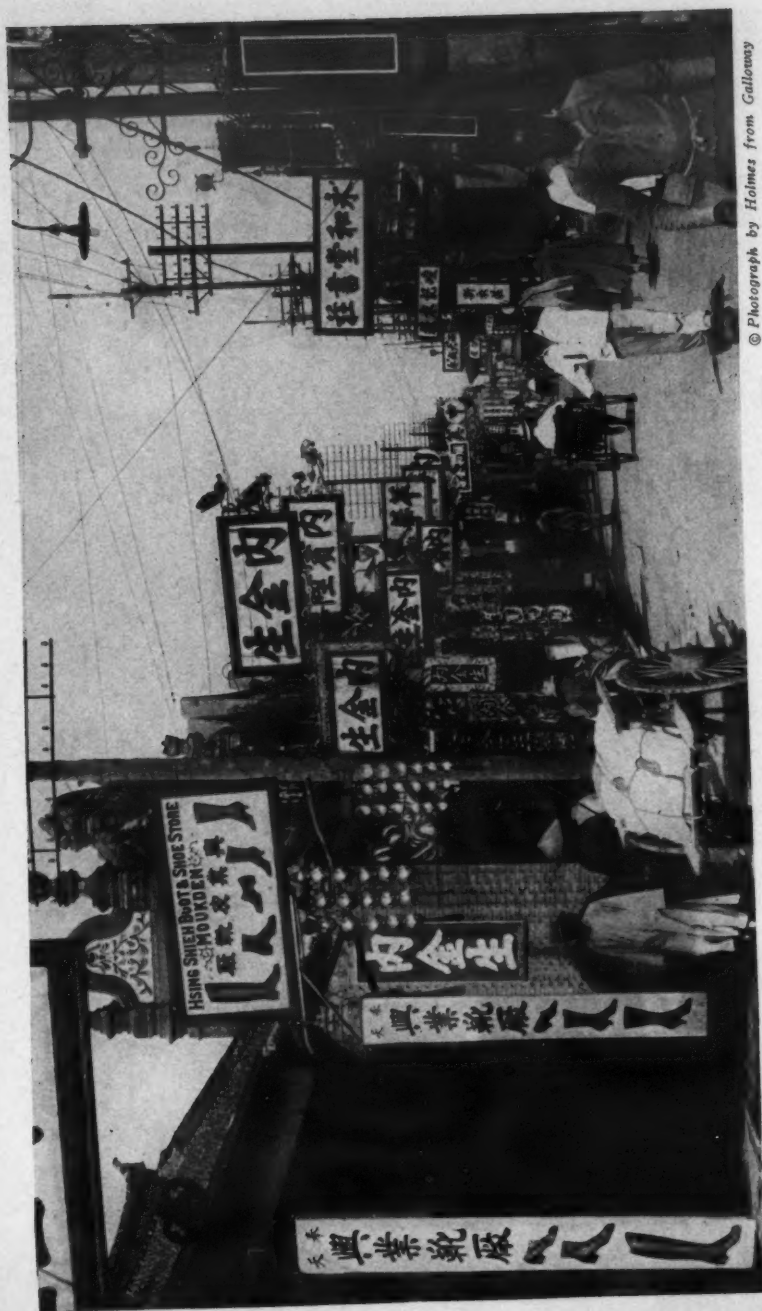
The South Manchuria Railway is one of the two physical elements of primary importance in Japanese influence in Manchuria. Ranking with this 700 miles of rail through the heart of lower Manchuria is the Japanese Leased Territory of Kwantung, forming the southern tip of the country, containing the excellent modern harbor of Dairen, and the one-time naval stronghold, Port Arthur.

Pullman Car Expresses

Russia built the South Manchuria Railway at the turn of the century, completing it in 1903. This Russian road was not of standard gauge. After the Russo-Japanese War, when victorious Japan took over Russia's position and holdings in Manchuria, the railway was changed to standard width and its roadbed, structures, and equipment greatly improved. It is now Asia's finest railway and even runs a crack train of American Pullmans drawn by one of the latest types of American locomotives. Excellent hotels, owned by the railway company, are to be found at even moderate-size towns. The company also operates coal mines.

This mammoth enterprise is a joint stock company, the shares of which are owned by Japanese citizens and the Japanese government, with the latter in control. The Railway Zone is recognized to be under Japanese dominion and Japan has the right, which she exercises, to maintain troops in the zone to guard it. The main railway extends from Dairen north to Changchun, a distance of approximately 400 miles. The Japanese system also includes about 150 miles of rail from the Korean border to Mukden, and a number of branch lines, bringing the total mileage close to 700.

Before the Chinese Eastern and South Manchuria railways were built Manchuria had only a sparse population, engaged chiefly in stock raising. No mines of any consequence were being operated and few plows had touched vast tillable areas of the land. The greater part of the development has come since the end



© Photograph by Holmes from Galloway

CHINA'S MOST FAMOUS DYNASTY CAME FROM MANCHURIA

A street in Mukden, Manchuria. It was from this city, scene of recent clashes between Chinese and Japanese troops, that the first Manchu emperor moved his capital in 1644 to Peiping (Peking), where his ancestors ruled 268 years, until China became a republic, in 1912 (See Bulletin No. 1).

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Lindberghs Touched Our Farthest North and Japan's "Cradle of Blizzards"

WHEN Colonel and Mrs. Charles A. Lindbergh made their successful vacation flight to the Orient this summer they flew a new great-circle route which carried them over some of the wildest and least-visited inhabited portions of the globe.

The great circle the Lindberghs chose via Ottawa, Moose Factory, Churchill, Baker Lake, Aklavik, Point Barrow, Nome, Karaginskii, Petropavlovsk, Nemuro and Tokyo—a total distance of about 7,100 miles—had never before been flown in its entirety, although Canadian airmen charted the section between Ottawa and Baker Lake, and in the vicinity of Aklavik, several years ago.

From Nome, Alaska, the Lindberghs followed, but in reverse direction, part of the route of Post and Gatty, round-the-world flyers, to Kamchatka. Here they picked up the line of the American round-the-world flyers in 1924, who crossed from Alaska by the Aleutian Islands. Over the Kuril Islands, a chain connecting Kamchatka and Japan, and known to the Japanese as a "Cradle of Blizzards," they passed the spot where Seiji Yoshihara, the Japanese Lindbergh, was forced down by fog in an attempt to make a good-will flight to the United States early this year. The Lindberghs had engine trouble in this region.

Ottawa, the first stop after leaving the United States, is the capital of the Dominion of Canada, a picturesque city of waterfalls, bold bluffs, and magnificent buildings. Although it is one of the least visited of larger Canadian cities its natural beauty sets it apart among capitals of the world. As an incorporated city Ottawa dates only from 1855. Two years later, by royal decree of Queen Victoria, Ottawa was made capital of the Dominion of Canada, to put an end to conflicting claims of Montreal and Quebec, Kingston and Toronto. Its splendid Parliament buildings replace a group destroyed by fire in 1916. In the central tower hangs a carillon of forty-nine bells, one of the finest in the Western Hemisphere.

Hudson's Bay Company's First Post

From Ottawa the Lindberghs plunged almost immediately into the forested wildernesses of southern Quebec and eastern Ontario. Near the foot of James Bay gasoline and supplies were waiting at Moose Factory, southernmost settlement of a region rich in the history and traditions of the old Hudson's Bay Company.

Here was established the first post of "The Company of Gentlemen Adventurers Trading to Hudson's Bay" as it was officially called. Charles II signed its charter in 1670 and blithely made its members "true and absolute" lords of three-quarters of the continent. To-day Moose Factory is a quiet old place, with a few tourists and some trading in the summer months. Prospectors' airplanes have given it a new importance in recent years as a supply base.

Churchill, the next halt, 800 miles farther north, is Hudson Bay's principal seaport, and the end of the farthest north railroad line connecting with the rest of Canada. Edmonton, Alberta, is 1,000 miles nearer to England, via Churchill, than it is via Montreal. This part of Canada is called the world's greatest continuous swamp, but, as it is spangled with small lakes, a plane with pontoons can make a safe landing almost anywhere (see illustration following Bulletin No. 3).

From Churchill, Baker Lake is almost due north. It was likely chosen by the Lindberghs as a point along their route because one hill near Baker Lake stands out for miles, a wonderful landmark for air pilots. Large schooners can be navigated up Chesterfield Inlet from Hudson Bay to Baker Lake, a distance of 300 miles. At the junction of the inlet with Baker Lake is a "reversible falls," caused by the rise and fall of 12-foot tides over a shallow bottom at this point.

Wilderness Near Arctic Circle

Northwest of Baker Lake the Lindberghs traversed the wildest and least-known section of their flight. Here is real barren land. A few prospectors and an occasional Indian fur trapper are the only inhabitants. Rocks and a great maze of lakes are all that the flyers saw until they crossed the Arctic Circle and arrived at Aklavik, near the mouth of the Mackenzie River. A forced landing in this sector would have meant much hardship traveling over rugged country where almost the only living creatures are swarms of troublesome insects.

Bulletin No. 2, October 12, 1931 (over).

of the Russo-Japanese War. In the twenty-four years since Dairen was opened as a free port the trade of Manchuria has expanded more than sixteen times.

Sixty-six per cent of the foreign commerce now passes through Dairen. Nearly a million Koreans have gone into Manchuria as immigrants, and uncounted millions of Chinese. In recent years the population has been swelled by more than a million Chinese annually. The total population is now close to 30 million.

The great majority of Manchuria's inhabitants are farmers. As one rides north on the South Manchuria Railway he sees unbroken fields of soy beans, millet and kaoliang, the latter a grain sorghum which grows high, like Indian corn. More than 220 million bushels of soy beans are now harvested annually. A procession of great ocean freighters from Dairen takes the beans, bean-cake and oil to all continents. From Manchuria also go millions of bushels of millet and kaoliang and nearly four million tons of coal, as well as timber, skins and numerous other commodities.

Note: See also "Manchuria, Promised Land of Asia," *National Geographic Magazine*, October, 1929. For supplementary reading see "Some Impressions of 150,000 Miles of Travel," by William Howard Taft, May, 1930. Students interested in Japan should consult "The Empire of the Risen Sun," October, 1923, and "Some Aspects of Rural Japan," September, 1922.

Bulletin No. 1, October 12, 1931.



© E. M. Newman

ONLY THE EAGLE AND THE ARROWS ON THE SHIELD OVER THE DOOR INDICATE THAT THIS IS A BIT OF THE U. S. A.

The American Consulate at Mukden occupies an old temple in the foreign settlement. Uncle Sam's representatives in Manchuria handle business pertaining to shipments of American machinery, tobacco, construction materials, and other products which this part of China wants from the United States. In return the Manchurians offer their own soy-bean oil, bean cake, furs—sable, dog, squirrel, and fox—and mineral ores.

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Glass-Paper, New Show Case for Many Commodities

IT LOOKS like isinglass, or like celluloid, or like a better grade of glassine—but glass-paper's nearest relative is the colorful, glossy rayon, or artificial silk. Glass-paper, also known as transparent cellulose sheeting, now wraps a thousand-and-one commodities, from automobile tires and baked hams to powder puffs and cigars.

Glass-paper is in no way related to glass, and it is only a distant cousin to paper. It is not a new product, but recent developments in the chemical industry have made production possible in quantities and at a price which permits general use. Transparent, thin, tough, and moisture-and-grease proof, it fills a need for a protective wrapping material which, while air-tight, permits the customer to see exactly what he is buying.

Block of Wood or Ball of Cotton

Take a block of wood or a ball of fluffy cotton, and you have either of the bases from which glass-paper is derived. Remove the ash, coloring matter, and other impurities from the wood or the cotton, and retain only the pure vegetable fiber, or cellulose. Treat this compound with caustic soda and bisulphide of carbon, and the result is "viscose," the liquid which is glass-paper after being forced through a very narrow slit, and cooled. If rayon "threads" are desired the "viscose" is forced through a multiplicity of tiny holes.

Through cellulose, glass-paper is related to many things familiar in modern life. Close cousins are the motion picture film, the powerful explosive tri-nitro cellulose, molded celluloid articles, and lacquers, both the nitro-cellulose for motor car bodies, and the acetate-cellulose for giving a shrink-finish to airplane wings. There are many distant uncles and aunts, such as safety glass, where a sheet of celluloid film is cemented between two panes of glass, and synthetic barnyard manure, a decomposition product.

Has Two-Way Benefits

Glass-paper is a versatile wrapping material. In almost all of its uses it can, if necessary, play a dual rôle. Glass-paper keeps moisture in, or it keeps moisture out; it keeps odors in or it keeps odors out; it keeps air in or it keeps air out; and it keeps grease in or it keeps grease out.

It is no more inflammable than ordinary paper, giving it precedence over celluloid films. It is much more transparent than the finest glassine, or waxed paper, and has none of the impurities of mica or isinglass. It can be folded around sharp corners and even overlapped, yet the article within is always clearly visible through the tissue. It is insoluble in water, and can even be eaten without harmful effects, although it is not very appetizing.

Particularly has such a cheap wrapping material appealed to drug store and department store merchants who formerly had to display pillows, powder puffs, pocketbooks, small toys, toothbrushes, etc., on open trays. When these articles became soiled from handling they had to be discarded, or sold at reduced prices as seconds. Fish, meats and fruit wrapped in this showcase-of-their-own retain

Aklavik marks the end of the most northerly air mail line on the continent, a fortnightly service which follows the Mackenzie River 1,800 miles from McMurray (Fort Murray), Alberta. From Aklavik the great circle route took the Lindberghs to Point Barrow, Alaska, farthest north bit of United States territory. Few sections of the earth are as dreary as this stretch of Arctic coast, which is open to navigation only six weeks in the year. The town of Barrow, however, has its school, churches, frame dwellings, and many old warehouses, the latter relics of the palmy days of whaling.

Nome, around the corner from the Bering Strait, was the last stop on the North American mainland. It was near Nome that the Polar airship *Norge* ended its 8,500-mile flight from Spitsbergen in 1926, and it was at a near-by field that Post and Gatty touched North American soil in their long hop from Khabarovsk, Siberia.

First View of Asia

A barren, rocky coast was the Lindbergh's first view of Asia. The extreme eastern end of Siberia is almost as desolate and uninhabited as northern Canada, but as their plane continued southward to the Kamchatka Peninsula, a land of alternating grass-covered sandhills and forests, backed by a range of volcanic mountains, they could see the cultivated farms of immigrants from Soviet Russia.

Karaginskii Island, their first Asian stop, a fur-trading post, has a good roadstead and a few crude habitations; but Petropavlovsk, the capital of the district, is a real city, with a thriving trade in many famous Siberian furs—sable, ermine, fox, squirrel, and bear. Founded in the eighteenth century, it is a town of civilized comfort surprising in so distant an outpost.

On a map of the world the Kuril Islands appear to be a convenient series of "stepping-stones" from Kamchatka to Japan. But the aviator has to "watch his steps!" Fog enshrouds them constantly and storms lash them days at a time. Like the Aleutians the Kurils are a string of volcanic peaks, dead and alive, whose heads protrude above the cold and stormy waters of the north Pacific. Although they belong to Japan most of the inhabitants of the Kurils are the Hairy Ainu, a curious people who live in the ground. Vast swarms of mosquitos make life there unpleasant. As was expected, this proved to be the most difficult part of the trip, a week being consumed for a little over 1,000 miles. Both fogs and engine trouble detained the flyers.

Hokkaido, the island on which Nemuro is located, lies north of the Japanese "mainland," Hondo. Like the rest of Japan it is a region of volcanic disturbance. At the southern tip of the island, near which the Lindberghs flew en route to Tokyo, rises the rocky promontory of Hakodate, the "Gibraltar of Japan." Although the cities of northern Japan have railways and electric lights, picturesque throngs of coolies, carrying bundles of dried seaweed or of cured fish, and Japanese women, wearing colorful kimonos with their obis (sashes) arranged in precise folds, can still be seen in the streets.

Note: For supplementary reading about the districts seen by the Lindberghs read "On Mackenzie's Trail to the Polar Sea," August, 1931; "To-day on the Yukon Trail of 1898," July, 1930; "Gentlemen Adventurers of the Air," November, 1929; "Navigating the *Norge* from Rome to the North Pole and Beyond," August, 1927; and "Some Impressions of 150,000 Miles of Travel," *National Geographic Magazine*, May, 1930.

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Iceland Has Little Ice, but Much Natural Steam Heat

JUDGING by its name, Iceland, the island kingdom north of the British Isles, which has the same ruler as Denmark, might be a land of nothing but ice and snow. On the contrary, Iceland during most of the year has less ice and snow than many lands of lower latitudes, but its hot springs are numerous and produce a steady supply of natural live steam.

This steam is now being utilized by the Iceland Government to run dairy machinery, to heal the sick in hospitals, and to heat vegetable hothouses. Patients suffering from lung trouble have found relief in the steam vapor from hot springs near Reykjavik, Iceland's capital. Through scientific use of its hot springs Iceland will soon be able to grow nearly all of its own food.

Maps Libel the Island

Iceland is libeled both by name and by maps. On many charts the most important physical fact in its life does not appear. Up from the south flows the warm Gulf Stream to enfold the island and work the magic of whisking it, in effect, nearly a thousand miles toward the Equator; so that its climate is not that of the polar regions, but of southern Canada or northern United States.

On Iceland's coasts are thriving towns with buildings of stone, gable roofs and church steeples, busy streets and electric lights. In the streets are men and women garbed much as are the inhabitants of Copenhagen and Glasgow, Ottawa and Minneapolis. One's eyes tell him that here is the same civilization that Europe and America know.

And other factors proclaim the truth still more unmistakably than do material things. Here, in this far northern land, a worthy national literature and stable national institutions were developed when much of Europe was floundering in the Dark Ages. Here the lamp of a Nordic Renaissance burned and lighted its own region, before a beacon of the Latin Renaissance was held aloft to light the way for the world. This northern light has never failed. To-day the literacy rate is higher in Iceland than in many countries of Europe.

Best of Country along Coast

It is true that physically Iceland's best foot is forward. Its most pleasant aspect is its fringe of coast. Inland it is in nowise a pretty country, though the distinction may be made that it possesses much scenery of beauty—a weird, magnificent beauty coupled with desolation; for, though Iceland is not the icy waste that distant popular fancy would make it, it fared less fortunately at the hands of another of Nature's great forces, fire.

The land is actively volcanic, and in the interior, on every hand, are the evidences of great fiery outbursts of the past. To tourists it presents none of those scenes which have made other lands popular; no forests, no rich meadows, no prosperous-appearing farms with beautiful gardens.

In spite of adverse conditions, in spite of earthquakes and volcanoes, and the absence of luxuries, the Icelanders cling to their land with fierce pride. They have a national life which is different from that of any other land in the world.

They feel strongly their one-time glory and value highly the culture and

their freshness longer than those handled in bulk, and the danger of contagion is lessened. Candy, cigars and cigarettes are prevented from losing their moisture.

Glass-paper is manufactured in various forms and sold under various trade names by American, British and French firms. Another brand, not inflammable, is being marketed in Germany.

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© Photograph from Royal Canadian Air Force

WHY THE LINDBERGH'S USED A SEAPLANE TO CROSS NORTHERN CANADA

In this characteristic country of northwestern Quebec the numerous placid lakes offer the only safe landing fields. Northern Canada is spangled with thousands of such water gems, which serve the airman in both summer and winter. In winter the frozen surfaces of these lakes make ideal landing fields for planes equipped with runners, or skids. Canada's vast wildernesses contain virgin timber of enormous value (See Bulletin No. 2).

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Patron of Plant Hunters Honored by Medal Award

PRESENTATION recently was made to Allison V. Armour, of New York, well known to American and European yachtsmen and also to archeologists the world over, of the Frank N. Meyer medal "for distinguished services in plant introduction."

The presentation was made by Dr. Gilbert Grosvenor, president of the National Geographic Society, at Beinn Bhreagh, home of the late Dr. Alexander Graham Bell and Mrs. Bell, now the summer residence of Dr. and Mrs. Grosvenor.

The medal was awarded for the series of expeditions, which Mr. Armour has conducted with his yacht *Utowana*, to find and bring into America from foreign countries useful and ornamental plants to enrich the farms and gardens of this country.

Made Eight Expeditions

The *Utowana* has made eight expeditions under the auspices of the United States Department of Agriculture and has carried on each a staff of scientific experts, detailed by the Secretary of Agriculture, the President of Harvard University, and the Director of Kew Gardens in England, respectively.

As described in "Exploring for Plants," Dr. David Fairchild's account of three of these expeditions, the yacht *Utowana* was especially equipped with laboratory, library, and greenhouse arrangements. Everything possible was done to facilitate the collecting, study and transportation of living plants in conformity with the strict regulations of the Federal Plant Quarantine and Control Board.

The first expedition in 1925 included Morocco and the Canary and Balearic Islands and southern Spain; the second, 1926, owing to engine trouble of the yacht, got no further than Aden. The collecting party went through to Ceylon, Sumatra and Java, spending the winter in those regions.

The third expedition, lasting six months, was down the west coast of Africa as far as Fernando Po. British, French, and Spanish colonies were visited, as well as Liberia.

Also Distributed Plants

On the fourth expedition, to the larger islands of the West Indies and to Honduras and Panama, the expedition collected plants and also took hundreds of plants grown from seeds collected by the second expedition in the Orient, and distributed them to various arboreta and gardens visited.

The fifth was a survey of the remote islands in the Mediterranean in a search for information regarding the Mediterranean fruit fly, at that time menacing Florida, while the sixth was a survey of the West Indies. Many of the little known islands were visited and stops were made on the north coast of South America.

The seventh, 1930, was in the eastern Mediterranean, among the islands of the Aegean and up the coast of the Adriatic, and the eighth, 1931, touched at points along the west coast of Panama, Central America and Mexico and proceeded into the Gulf of California.

As a result of these expeditions about 2,000 species and varieties of plants new to America were brought in for the Division of Foreign Plant Introduction of the Department of Agriculture to experiment with. They are being grown under close observation in the Government Plant Introduction Gardens, and from

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civilization that they built practically without outside help and in which the Iceland of to-day has its roots. Not only have they long ranked among the most literate people in the world, but they possess a broad knowledge and excellent taste in literature.

The people of Iceland have a great literature of their own in the old sagas, and many of their modern poets are especially gifted. Their folk songs are popular throughout the country and rank with the best of any nation.

Note: Students desiring additional material and illustrations should consult "Iceland, the Island of Sagas," and "A Walking Tour across Iceland," in the April, 1928, *National Geographic Magazine*.

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© Photograph courtesy Roger Nielsen

REYKJAVIK'S HOT SPRINGS DO THE DIRTY WORK

Nature provides a boiling pot for these Icelandic housewives and the city furnishes accommodations for drying near-by. The water from these springs remains near the boiling point the year round. They will soon be utilized for the growing of food under glass and, perhaps, for heating the homes and shops of Iceland's capital.

there are sent out to Experimental Stations and individual experimenters. While this service is essentially for America, many plants are sent to agricultural institutions all over the world.

Among the new plants successfully established are the remarkable cultivated Javanese bamboos out of which the Javanese construct their houses; a series of species of the genus *Ficus* promising as shade and ornamental trees for southern latitudes; the Ramboetan, one of the most delicious fruits of the Malay Archipelago; new varieties of Mangos from Java for south Florida and a collection of valuable oil palms from West Africa.

A Frost-Resisting Avocado

There also is a collection of beautiful ornamental palms for parks and gardens in the extreme south; seeds of the famous Mangosteen and the equally well-known Durian; a collection of the bur clovers and true clovers, which are among the most important forage and green manure crops of the Mediterranean regions, and varieties of wild cotton for the use of the cotton breeders in producing new types of cotton. Lawn grasses and forage grasses were imported for trial in the southern States; a high altitude avocado from Guatemala which may have unusual frost-resisting powers; a collection of new varieties of table grapes from Constantinople; an early fruiting native Moroccan apricot to try as a stock or for breeding purposes in California, and collections of succulent plants for rock gardens and dooryards.

The Plant Introduction Medal was established by the staff of the Division of Foreign Plant Introduction of the Department of Agriculture in honor of Frank N. Meyer, agricultural explorer of that office, who after thirteen years of exploring in China and Central Asia was drowned in the Yangtze River in 1918.

The American Genetic Association was selected as trustee of the medal and its Council awards it for distinguished services in the field of Plant Introduction.

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© Photograph by Wilhelm Tobien

CHINESE BANANAS FROM THE CANARIES TICKLE LONDON PALATES

An aqueduct and road along a hillside banana grove in the Canary Islands. The Chinese banana is small but possesses a very delicate flavor, and can be grown only on irrigated land up to an altitude of about 800 feet. The aqueducts are very similar to those built by Romans, and bring life-giving water from the hills to the thirsty plantations.

